

Course Description Form

1. Course Name:	
Food Chemistry	
2. Course Code:	
FOCH364	
3. Semester / Year:	
First semester(fall) / third level /2024-2025	
4. Description Preparation Date:	
1/9/2024	
5. Available Attendance Forms:	
Presence	
6. Number of Credit Hours (Total) / Number of Units (Total)	
2 theoretical hours + 3 practical hours (75 hours) / 3.5 units	
7. Course administrator's name (mention all, if more than one name)	
Name: Dr. Layla Azhar Ahmed Email: laylaazhar@uomosul.edu.iq and MSc. Afkar Y. Ahmed Email: afkar.ahmed@uomosul.edu.iq	
8. Course Objectives	
Theoretical - Enabling the student to understand and comprehend food chemistry and its relationship to the food industry and food preservation. -Enabling the student to understand the nature of the chemical and biochemical changes that occur in foods. -Enabling the student to become familiar with the most important active chemical compounds in food. - Enabling the student to detect the types of brown discoloration in different foods. -The student can judge the types of spoilage and its speed in different foods.	Practical -Enabling the student to identify the most important laboratory methods for detecting active chemical compounds in foods and practical experiments to diagnose them in various foods.
9. Teaching and Learning Strategies	
Theoretical - Interactive lecture - Brainstorming - Dialogue and discussion - Assigning reports - Demonstrations of models of food spoilage due to autoxidation	Practical Interactive lecture -Discussion, dialogue, brainstorming -Conducting laboratory experiments -Assigning reports -Conducting daily and monthly examinations



- Presentations of examples of food spoilage due to molds and yeasts
- He is assigned to prepare a report entitled from his own diligence and prepare it for discussion with the students

10. Course Structure

Week	Hours	Required Learning Outcomes	Unit or subject name	Learning method	Evaluation method
1	2Theoretical 3Practical	THEORETICAL a1) The student learns the concept of water as a universal solvent and a basic component of many foods. PRACTICAL: b1) Estimation of baking powder components	THEORETICAL Molecular water and the physical properties of water practical : Experiment with different methods for estimating chemical lifting factors	THEORETICAL audio methods, Writing on the board Direct dialogue style PRACTICAL Assigning tasks and reports	Shortexams, assignments, discussions
2	2Theoretical 3Practical	THEORETICAL a1) The student learns the concept of water as a universal solvent and a basic component of many foods. a2) Familiar with the presence of carbohydrates in plant and animal cells and microorganisms and the classification of carbohydrates. PRACTICAL : b1) Estimation of baking powder components	THEORETICAL The effectiveness of water, its most important properties and types in food practical : Detect effective groups	THEORETICAL audio methods, Writing on the board Direct dialogue style PRACTICAL Assigning tasks and reports	Shortexams, assignments, discussions
3	2Theoretical 3Practical	THEORETICAL a1) The student learns the concept of water as a universal solvent and a basic component of many foods. a2) Familiar with the presence of carbohydrates in plant and animal cells and microorganisms and the classification of carbohydrates. PRACTICAL : b1) Estimation of baking powder components	THEORETICAL Carbohydrates in Foods Part One practical : Separation of proteins according to solubility differences	THEORETICAL audio methods, Writing on the board Direct dialogue style PRACTICAL Assigning tasks and reports	Shortexams, assignments, discussions



4	2Theoretical 3Practical	THEORETICAL a1) The student learns the concept of water as a universal solvent and a basic component of many foods. a2) Familiar with the presence of carbohydrates in plant and animal cells and microorganisms and the classification of carbohydrates. PRACTICAL : b1) Estimation of baking powder components	THEORETICAL Carbohydrates in Foods Part Two practical : Board-Wellman test	THEORETICAL audio methods, Writing on the board Direct dialogue style PRACTICAL Assigning tasks and reports	Shortexams, assignments, discussions
5	2Theoretical 3Practical	THEORETICAL a2) Familiar with the presence of carbohydrates in plant and animal cells and microorganisms and the classification of carbohydrates. practical : b1) Estimation of baking powder components	theoretical Food Fats Part One practical : Acids, bases, buffer solutions, and pH measurement	THEORETICAL audio methods, Writing on the board Direct dialogue style PRACTICAL Assigning tasks and reports	Shortexams, assignments, discussions
6	2Theoretical 3Practical	THEORETICAL a1) The student learns the concept of water as a universal solvent and a basic component of many foods. practical : b1) Estimation of baking powder components	THEORETICAL Food Fats Part Two practical : pH and its measurement	THEORETICAL audio methods, Writing on the board Direct dialogue style PRACTICAL Assigning tasks and reports	Shortexams, assignments, discussions
7	2Theoretical 3Practical	THEORETICAL a1) The student learns the concept of water as a universal solvent and a basic component of many foods. practical : b1) Estimation of baking powder components	THEORETICAL Food proteins part one practical : Pectin tests	THEORETICAL audio methods, Writing on the board Direct dialogue style PRACTICAL Assigning tasks and reports	Shortexams, assignments, discussions
8	2Theoretical 3Practical	THEORETICAL a1) The student learns the concept of water as a universal solvent and a basic component of many foods. PRACTICAL :	THEORETICAL Food Proteins Part Two practical : Estimation of ascorbic acid and its stability	THEORETICAL audio methods, Writing on the board Direct dialogue style PRACTICAL	Shortexams, assignments, discussions

		b1) Estimation of baking powder components		Assigning tasks and reports	
9	2Theoretical 3Practical	THEORETICAL a1) The student learns the concept of water as a universal solvent and a basic component of many foods. PRACTICAL : b1) Estimation of baking powder components	THEORETICAL Non-enzymatic browning part 1 practical : Enzymatic browning	THEORETICAL audio methods, Writing on the board Direct dialogue style PRACTICAL Assigning tasks and reports	Shortexams, assignments, discussions
10	2Theoretical 3Practical	THEORETICAL a1) The student learns the concept of water as a universal solvent and a basic component of many foods. PRACTICAL: b1) Estimation of baking powder components	THEORETICAL Non-enzymatic browning part 2 practical : browning reactions	THEORETICAL audio methods, Writing on the board Direct dialogue style PRACTICAL Assigning tasks and reports	Shortexams, assignments, discussions
11	2Theoretical 3Practical	THEORETICAL a1) The student learns the concept of water as a universal solvent and a basic component of many foods . c1) Reveals the types of oil and fat tests in food PRACTICAL: b1) Estimation of baking powder components	THEORETICAL Enzymatic browning part 1 practical : Caramel	THEORETICAL audio methods, Writing on the board Direct dialogue style PRACTICAL Assigning tasks and reports	Shortexams, assignments, discussions
12	2Theoretical 3Practical	THEORETICAL a1) The student learns the concept of water as a universal solvent and a basic component of many foods. c1) Reveals the types of oil and fat tests in food PRACTICAL: c1) Reveals the types of oil and fat tests in food	THEORETICAL Enzymatic browning part 2 practical : Estimation of swelling coefficient and absorption coefficient of legumes	THEORETICAL audio methods, Writing on the board Direct dialogue style PRACTICAL Assigning tasks and reports	Shortexams, assignments, discussions
13	2Theoretical 3Practical	THEORETICAL a1) The student learns the concept of water as a universal solvent and a basic component of many foods a2) Familiar with the presence of carbohydrates in plant and animal cells and microorganisms and the	THEORETICAL Food Enzymes Part 1	THEORETICAL audio methods, Writing on the board Direct dialogue style PRACTICAL Assigning tasks and reports	Shortexams, assignments, discussions



		classification of carbohydrates. PRACTICAL: c1) Reveals the types of oil and fat tests in food	practical : Oils and fats		
14	2Theoretical 3Practical	THEORETICAL d1) Communicate with a food factory to conduct a scientific and field visit to learn about the different production methods. PRACTICAL : b1) Estimation of baking powder components	THEORETICAL Problem solving practical : Determine the peroxide value	THEORETICAL audio methods, Writing on the board Direct dialogue style PRACTICAL Assigning tasks and reports	Shortexams, assignments, discussions
15	2Theoretical 3Practical	THEORETICAL c1) Reveals the types of oil and fat tests in food PRACTICAL: c1) Reveals the types of oil and fat tests in food	THEORETICAL natural dyes practical : Use of TLC	THEORETICAL audio methods, Writing on the board Direct dialogue style PRACTICAL Assigning tasks and reports	Shortexams, assignments, discussions

11. Course Evaluation

t	Evaluation methods	Evaluation date (one week)	Grade	Relative weight %
1	Final theoretical report + theoretical practical reports	Theoretical 15 weeks Practical 1-15 weeks	7theoretical + 6 practical	13%
2	Short test 1 Quiz	3 weeks	4theoretical + 2practical	6%
3	Midterm exam (theoretical and practical)	9 weeks	10theoretical + 5 practical	15%
4	Short test 2 Quiz	12 weeks	4 theoretical + 2 practical	6%
5	Final practical test	practical exams week	20	20%
6	Final theoretical exam	theoretical exams week	40	40%
			100	100

12. Learning and Teaching Resources

Required textbooks (curricular books, if any)	Food Chemistry/Prof. Dr. Basil Kamil Dalaly and Dr. Kamil Al.Rikabi
Main references (sources)	/
Recommended books and references (scientific journals, reports...)	Scientific journals and research in the field of Food Chemistry
Electronic References, Websites	/



Course administrator's name : Dr. Layla Azhar Ahmed



and MSc. Afkar Y. Ahmed



Head of Scientific council : Dr. Taha Mahmood T.



Head of Department : Dr. Taha Mahmood T.

